NAVAL POSTGRADUATE SCHOOL
Monterey, California

THESIS

AN ANALYSIS OF THE ADVANTAGES AND DISADVANTAGES ASSOCIATED WITH THE CONSOLIDATION OF THE HS AND HSL MISSIONS AND COMMUNITIES

by

Raymond B. Roll

March 1994

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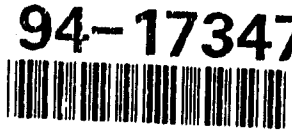

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE	3. REPORT TYPE AND DATES COVERED
	March 1994	Master's Thesis

4. TITLE AND SUBTITLE
An Analysis of the Advantages and Disadvantages Associated with the Consolidation of the HS and HSL Missions and Communities

5. FUNDING NUMBERS

6. AUTHOR(S)
Raymond B. Roll

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)
Naval Postgraduate School
Monterey, CA 93943-5000

8. PERFORMING ORGANIZATION REPORT NUMBER

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)

10. SPONSORING/MONITORING AGENCY REPORT NUMBER

11. SUPPLEMENTARY NOTES
The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government.

12a. DISTRIBUTION/AVAILABILITY STATEMENT
Approved for public release; distribution is unlimited.

12b. DISTRIBUTION CODE
A

13. ABSTRACT (Maximum 200 words)

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This paper analyzes both sides of the consolidation issue and proposes four combined community organizations. Additionally, the advantages and disadvantages of each new structure are reviewed to make recommendations on consolidating the HS and HSL communities. This study also recommends a Project Action Team be formed to continue analyzing the consolidation of these communities and outline the steps required to implement a consolidation plan.

14. SUBJECT TERMS	15. NUMBER OF PAGES
Anti-submarine Warfare (ASW), Fleet Replacement Squadron (FRS), Helicopter Anti-submarine (HS) Helicopter Anti-Submarines (Light) (HSL)	79
	16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT
Unclassified	Unclassified	Unclassified	UL

NSN 7540-01-280-5500

Standard Form 298 (Rev 2-89)
Prescribed by ANSI Std 239-18
298-102

Approved for public release; distribution is unlimited

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MASTER OF SCIENCE MANAGEMENT

from the

NAVAL POSTGRADUATE SCHOOL
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This study examines the advantages and disadvantages associated with the consolidation of the Helicopter Anti-submarine (HS) and Helicopter Anti-submarine (Light) (HSL) communities. The primary source material is generated from personal interviews of Commanding Officers of these communities. The helicopter and mission developments of each community are researched to determine the goals, environments and technology that shape the squadron operational structures. The operational design of the current squadrons are then examined to see how they are structured to respond to these organizational constraints.

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I. INTRODUCTION

A. FOCUS OF THE STUDY

This study will research the advantages and disadvantages associated with the consolidation of the Helicopter Anti-submarine (HS) and Helicopter Anti-submarine (Light) (HSL) missions and communities. This paper also propose four combined squadron organizations and describes the advantages and disadvantages of each new structure. The data for this study was gathered by interviewing current Commanding Officers (CO's) of the HS and HSL squadrons.

B. BACKGROUND INFORMATION

After forty years of independent helicopter and mission development, the HS and HSL communities are currently flying a similar helicopter, the Sikorsky H-60. The HSL version, the SH-60B, was introduced to the fleet in 1984 while the HS version, the SH-60F, began operational flights in 1989. A common airframe and core mission helicopter, the SH-60R, is proposed to begin operation in 2001. With the introduction of the common core aircraft will come the consolidation of the HS and HSL Fleet Replacement Squadrons (FRS's). A natural progression in this evolution may be the uniting of these helicopter communities.

The general military downsizing and the decreasing defense budget requires today's naval organizations to do

more with less. In this current climate of declining military budgets and manpower reductions many people ask whether naval aviation can afford to maintain two separate ASW helicopter communities and their two supporting infrastructures. Because of the economic conditions, there is a search for a better way to do business. Consolidation of the HS and HSL communities may be a better way of doing business.

Recently the question of consolidation has been raised more frequently. CAPT George Galdorisi, in his article, "Strike Force Air Power For The Twenty-First Century," (1991) proposed a new helicopter squadron structure that includes the HS, HSL, and HC (Helicopter Combat Vertical Replenishment) communities. Since then many point papers supporting or rejecting the idea of consolidation have been written. RADM F. Dirren's article, "Focus on the future: 20/20 Vision," (1994) states the HS and HSL helicopter communities are currently formulating their future development strategies. The Helicopter Type Wing Commanders have been tasked to look at the HS and HSL communities and address the issues surrounding consolidation. Their findings are summarized in a "Vision 2005" brief which was presented to the seven Helicopter Flag Officers.

C. LITERATURE REVIEW

Little formal literature is available on the consolidation of the HS and HSL communities but it has been the

subject of many unpublished point papers. Most of these papers are written by Navy members who have experience in either one or both communities, and typically, their focus reflects community bias. Few of these papers view the two communities as organizations that are shaped and influenced by external and internal constraints just like other standard organizations. The term organization is defined as "a formal association of people that have been created for the purpose of accomplishing collective goals on a relative continuous basis" (Connor, 1984, pp.4). Using this definition the HS and HSL squadrons qualify as organizations and any effort to redesign them should be governed by the same logic utilized when redesigning other type organizations.

In Patrick E. Conner's module, "Organization Structure and Design," (1984) he defines what an organization is and how its design is dependant upon the environment it operates in, the technology it utilizes, and the work force available to it. These constraints shape the design of organizations and must be considered before attempting to redesign a current structure. In Chapter III, the evolutions of the current squadron structures are researched to acquire an understanding of the HS and HSL community goals (missions), their operating environments, the technology they utilize, and the work force available to them.

It can be argued that services provided by the HS and HSL organizations are the missions they fulfill. It is important to understand these missions. In short, structures are designed and redesigned so as to best accomplish their organizational goals under prevailing conditions (Connor, 1984, pp.9). Chapter III outlines the missions of the HS and HSL communities to provide insight into the purpose of the squadrons. Only after studying the purpose of organizations can we consider and react to the constraints of environment, technology, and work force (Connor, 1984, pp.8).

The world outside the organization with which it comes into operating contact is its environment and is as important a factor influencing its design as the goals the organization is pursuing. The ASW helicopter environment consist of international political and social factors, the budget climate, interest groups and tax payers, to name a few. Organizational design has been discussed by many authors in management and organization theory. These authors have identified propositions supporting the idea that the best organizational design is contingent on environmental conditions (Takahashi, 1987, pp.iii). The environmental conditions that surround the HS and HSL communities are changing with the demise of the USSR and the shrinking military budget and requires an adjustment in the current naval structures. Conner insist if an organization is to survive and prosper, it must respond to its environment

(1984, pp.12). Consolidation may be the proper response to the environmental changes in the political and economic conditions that shape the structural design of the two communities.

Organizational design literature covers many types of structural designs. A review of the current HS and HSL structures reveal that they utilize two different organizational designs to achieve their missions. The HS community employs the more classical management model of a hierarchial structure where one boss at the top exercises the principle of unity of command (Takahashi, 1987, pp.2). The unity of command principle states that the one person at the top of the organization is the single superior to all the members of the organization. The CO of the HS squadron exercises the principle of unity of command whether the squadron is deployed or shore-based.

Although the HSL squadron structure appears to resemble the HS hierarchial design it actually utilizes a matrix structure. "Any organization that abandons the precept of unity of command and employs a multiple command system is considered to be a matrix organization" (Takahashi, 1987, pp.2). The HSL community abandons the unity of command when they deploy detachments that are operationally controlled by the ship's CO and administratively controlled by the squadron's CO. This matrix system was developed to solve the operational problems caused by the irregularities of

detachment deployments. A necessary condition for a matrix organization to be the preferred structural choice was "uncertainty" (Takahashi, 1987, pp.2).

Any redesign must take all these design factors into account to successfully restructure an organization. Chapter III will review the missions, the environment, the technology and the structure and composition of the assigned work force of the two communities. Building on this foundation, Chapter IV addresses the consolidation issue and proposes four alternative organizational designs to the current two community system.

II. METHODOLOGY

This thesis examines the advantages and disadvantages associated with consolidating the HS and HSL communities. The primary source material comes from personal interviews of the commanding officers (CO's) from these communities. The helicopter and mission developments of each community were researched to determine the goals (missions), environments, and technology that shaped the squadron operational structures. The operational structures of the current squadrons were then examined to determine how they have been designed to adapt to these organizational constraints. The current squadron designs and organizational constraints that shaped these commands provided a framework on which to discuss the consolidation issue.

A. THE INTERVIEWS

To determine if a consensus on the consolidation question existed an attempt was made to interview all the CO's of the East and West Coast HS and HSL squadrons, 19 of the 21 commanding officers were interviewed, two squadrons were deployed and unavailable. The CO's were choosen because their experiences qualified them as subject matter experts. The CO's were sent a letter (see Appendix A) prior to the interview to introduce the subject areas that would be covered. All the interviews were intended to be face-to-face

but due to budget restrictions, the interviews of the East Coast CO's were conducted over the telephone.

Question development and strategy during the interviews were general in nature (see Appendix B for actual interview questions) and concentrated on three main areas; first, should the two communities be consolidated? Second, what should the "new" consolidated squadron look like? And, thirdly, what are the alternatives to consolidation? Additionally, the CO's were asked what they thought were the advantages and disadvantages associated with consolidation and what were the advantages and disadvantages to their proposed alternative structure. The helicopter community's Vision 2005 brief was also obtained to ensure every advantage and disadvantage was recorded.

All face-to-face interviews were taped and transcribed. The telephone interviews were hand recorded during the interview. All the advantages, disadvantages, and proposed new structures presented in this thesis were taken from the CO's responses and from the Vision 2005 brief. Corroborative data was researched to support all CO's responses and was included with the responses. In situations where a response was seen as an advantage by one CO and a disadvantage by another, the response was listed as both along with any supporting comments.

B. BIAS

The data from the interviews can be characterized as biased favoring each CO's community. The CO's were familiar with how their community operated and was organized. They were confident in analyzing their community's strengths and weaknesses and uncertain about the other community. Additionally, they were inclined to protect their community from being "invaded" by the other community.

A general bias was evident in the CO's responses, most HS CO's supported consolidation while HSL CO's felt it was a bad idea for the communities. This response bias does not invalidate this thesis because the advantages and disadvantages of consolidation, as well as the proposed new structures given by a CO, were still applicable regardless of his particular views. The interview requested from the CO's their perceptions based on their experiences and was conscious of the inherent bias. Additionally, every effort to support a perceived advantage or disadvantage with some kind of corroborative data was attempted. Even if supporting data was not available, the response was still used for the thesis.

The writer of this thesis also acknowledges the potential of a personal bias to the HS community. This bias stems from a HS background which includes a fleet tour of duty as the squadron's ASW Officer and one tour of duty as an instructor pilot in the HS FRS. This bias was seen as potentially a

greater problem to the thesis then the CO generated bias. The interview questions were general and open ended to limit any adverse effect this writer may have had on the CO's responses. In an attempt to neutralize the writer's bias, all responses were viewed as "truths" and presented in the thesis.

The summary and recommendations chapter had the greatest potential to be effected by the writer's bias. While the writer made every attempt to present the final conclusions free from any preconceived ideas and based entirely on the contents of the thesis the reader should keep the writer's past HS experience in mind.

III. EVOLUTION OF THE CURRENT SQUADRON STRUCTURES

A. HELICOPTER AND MISSION DEVELOPMENT

1. HSL COMMUNITY

UH-2 Seasprite: In 1956 the US Navy required a high speed utility helicopter that could operate off small surface ships to provide liaison and rescue missions over long distances. This helicopter requirement was filled by the Kaman Corporation which designed the K-20, later designated the UH-2 Seasprite by the US Navy. Initial deliveries of the UH-2 began entering the fleet in late 1962. (ap Rees, 1986, pp.85) The UH-2 had a crew of three, two pilots and one aircrewman. Because of its requirement for small surface ship operation it had to be small enough to land and be hangared on board. These ships routinely operated hundreds of miles from the aircraft carrier in an area referred to as the outer zone of the carrier defense.

The Navy considered the aircraft carrier to be the high value unit and placed it in the center of the battle group. Surface combatants, normally, destroyers and cruisers, are strategically placed around the carrier to form an umbrella of protection against air, surface and subsurface threats. This protection was divided into inner and outer zones. The inner zone consisted of a region within 50 miles of the carrier and the outer zone extended from 50

miles and beyond. The outer zone protection was the responsibility of the destroyers and cruisers of the battle group. Long range weapon systems were designed to provide protection for themselves and for the aircraft carrier.

The helicopters operating in the outer zone were require to transit long distances to perform liaison and logistic missions to the carrier and to the other surface ships of the battle group. Additionally, ships operating in the outer zone had to provide their own search and rescue (SAR) capability. The UH-2 performed this mission in the case of a man-over-board or any other accident at sea. Liaison, logistic and SAR would remain the cornerstone of the HSL missions throughout its development.

In 1963, to counter a growing submarine threat, the Kaman Helicopter Corporation received a US Navy contract to investigate the anti-submarine warfare (ASW) potential of the UH-2 Seasprite. If the ASW trials proved successful, the Seasprite would replace the Gyrodyne ASW remote piloted helicopter currently in service. Several ASW configurations were evaluated, some included a dipping sonar system, but ultimately a package that included a surface search radar, a magnetic anomaly detection (MAD) system, and a sonobuoy system, in addition to two externally mounted torpedoes for submarine attack, was chosen. (ap Rees, 1986, pp.86)

This ASW configuration was influence by the defensive needs of the helicopter's parent ship. The ASW remote

piloted helicopter main mission was to fly out a specific bearing from its control ship to a certain distance and drop a torpedo in an area where an enemy sub was suspected to be. The ASW version of the Seasprite would be required to perform this same mission, only in a more advanced and more accurate manner.

The helicopter would be launched based on the ship's ASW sensors to an area where an enemy sub was suspected to be. The helicopter would deploy a sonobuoy pattern to try to localize the submarine. Once the threat was localized, the MAD system would be utilized to confirm the subs presence and pin point the optimum location of the torpedo drop.

The surface search radar was desired by the surface ships because of its potential to extend the ship's radar coverage range. Radar is limited by line-of-sight and by placing a radar on an elevated platform, a helicopter, the search area is significantly increased to an over-the-horizon capability. This extended radar range greatly increases the protective umbrella afforded the parent ship from surface threats. The Seasprite helicopter enhanced and became an integral part of the ship's weapon system.

This integration of the ASW and radar systems became identified as LAMPS MK I (Light Airborne Multi-Purpose System). The LAMPS MK I main objective was to give the Navy its first small ship ASW helicopter that would serve as an extension to the parent ship's ASW and radar search

capabilities. (ap Rees, 1986, pp.86) The ASW trials program proved successful and the operational deployment of the new Seasprite ASW variant, designated the SH-2D, began in December 1971.

SH-60B Seahawk: The LAMPS program was a long range project to resolve a deficiency in the surface fleet's ASW protection. With the success of the LAMPS MK I program, a LAMPS MK II update was planned with mission improvements to add to the capabilities of the UH-2D and extend the ship's tactical ASW air range. In the early 1970's, the Navy realized the SH-2D Seasprite would be unable to fulfill the planned mission improvements of the MK II program. The Navy decided to issue a new set of ASW requirements that resulted in a LAMPS MK III specification. (ap Rees, 1986, 154) The S-70L, later designated the SH-60B Seahawk, was submitted by the Sikorsky Helicopter Corporation for the MK III contract competition.

Sikorsky was authorized to construct five prototype aircraft in 1977, and after being awarded the production contract, built the first SH-60B for operational deployment in 1984 (ap Rees, 1986, pp.156). The LAMPS MK III system further integrated the ship and helicopter capabilities, upgrading anti-ship surveillance and targeting (ASST) to a primary mission area. The integration of ship and air capabilities has been a very successful feature of the LAMPS

program and virtually makes the SH-60B and its base ship inseparable.

The Navy plans to continue the LAMPS program well into the 21st century with the addition of the SH-60R in 1998. The Navy will outfit the SH-60R with an active dipping sonar in an acknowledgement of the ASW threat the newer and significantly quieter nuclear and diesel submarines poses to its ships. For the first time the Navy will have an ASW helicopter capable of doing all the missions associated with inner and outer zone defense.

2. HS COMMUNITY

HSS-1 Seabat: The development of helicopter ASW operations during the early 1950's was impeded by the relative poor engine power of the helicopters in operation at the time. This lack of power prevented any realistic long distant flight with a full complement of ASW sensors and weaponry and virtually excluded operating in a hover over water. The Sikorsky helicopters of the early 1950's that operated off aircraft carriers, designated HRS-1,2 or 3, provided logistics and SAR for the carrier. Early trials using these Sikorsky helicopters in an ASW role quickly revealed the need for a larger and more powerful aircraft and resulted in the Navy requesting a new helicopter from the helicopter industry in 1952. (ap Rees, 1986, pp.132)

Sikorsky met this requirement with a "stretched" HRS variant featuring a new powerplant and rotor configuration.

By early 1955, the first shipment of the newly designated HSS-1 Seabat began arriving to the fleet to serve in an ASW role. The Seabat carried a crew of four, two pilots and two aircrewmen. The ASW system contained two homing torpedoes and the necessary ASW avionics for the dipping sonar system. Later versions added automatic stabilization, auto-hover capability, and other equipment that enabled the helicopter to be flown in any weather day or night. The powerplant of the Seabat was new but the real advances were in the ASW systems.(ap Rees, 1986, pp.133)

These helicopters operated from aircraft carriers in the center of the battle group and were the carriers last line of defense against the subsurface threat. The aircraft carrier generates a lot of acoustic noise as it moves through the water thereby making passive sonobuoy detection unreliable. Active dipping sonar is the preferred sensor for prosecuting submarines in the inner zone. To perform dipping operations in all weather conditions, day or night, an auto-hover capability was required to safely maintain a stable hover 50 feet above the ocean.

SH-3 Sea King: The advent of the first turbo-shaft engines for helicopter use in the mid-1950's revolutionized the design and operation of helicopters in the ASW role. The turbo-shaft driven engine was the answer to the Navy's requirement for a helicopter capable of carrying a dipping sonar, two homing torpedoes, sufficient fuel for four hours

of flight endurance and full day or night all weather avionics.(ap Rees, 1986, pp.134)

Sikorsky utilized turbo-shaft engines in its newly designed S-61, later called the SH-3A Sea King by the Navy, and received a development contract in the late 1957. The Sea King's main outward feature consisted of a boat hull undercarriage and two outrigger sponsons which enabled a limited amphibious capability. Additionally, the Sea King borrowed much of the ASW systems contained in the Seabat which allowed the initial deliveries of the Sea King to begin in 1961. (ap Rees, 1986, pp.134) In contrast to the SH-2 Seasprite which integrated into the ship's weapon system, the SH-3 was virtually independent of the aircraft carrier's command and control. The carrier's main mission is the projection of force by its fixed wing aircraft. The carrier left its own protection up to the surface ships in the outer zone and to the SH-3's for its inner zone ASW protection.

Sikorsky's production of the SH-3 ended in the early 1970's, but conversion programs that upgraded early models into the SH-3H version continued into the early 1980's. This configuration involved the installation of new ASW equipment including MAD and an active/passive sonobuoy system. (ap Rees, 1986, pp.139)

SH-60F War Hawk: In March 1985 the Navy authorized full scale development of an H-60 variant that would utilize

the basic airframe of the SH-60B but would contain a unique avionics package. The SH-60F would be the replacement for the Sea King and was designed to operate from aircraft carriers. The SH-60F would utilize a dipping sonar system and a sonobuoy system to defend the inner zone region. (ap Rees, 1986, pp.156) Additionally, it would fulfill the SAR mission during carrier fixed-wing operations. The SH-60F began its fleet introduction in 1989 and is projected to perform the HS missions into the 21st century.

Addressing the need for a survivable combat search and rescue (CSAR) vehicle, the Navy purchased another variant of the H-60, the HH-60H. During the Vietnam War, SH-3's were sent over land in attempts to rescue of downed aviators, many of these attempts were unsuccessful. The SH-3 was not built for this combat mission nor were the aircrews properly trained for it. The HH-60H is a helicopter designed specifically for the CSAR mission and began operation in 1990.

Based on a perceived reduction in the open ocean submarine threat to the carrier and budget driven priorities to reduce aircraft and personnel on board the carriers, the Navy is discussing the option of removing the SH-60F's off the carrier. Carrier ASW protection would be provided from a HSL detachment on the carrier or from an accompanying surface ship. The HH-60H's will provide logistic and CSAR missions from the carrier, as well as, the growing need for

protection against the low,slow flyer and fast attack gunboat threat.

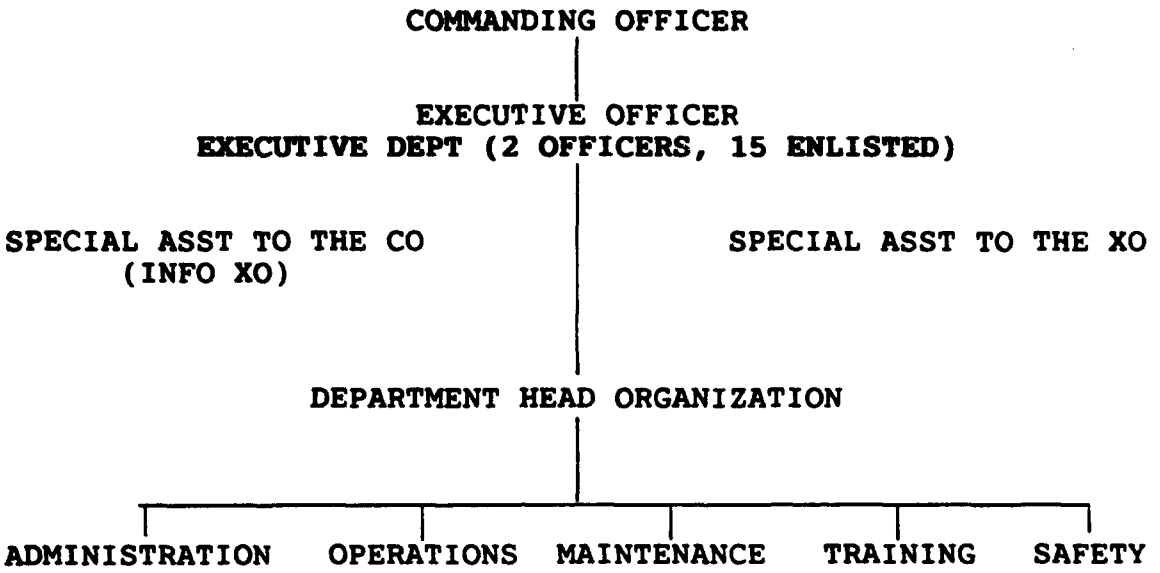
B. CURRENT SQUADRON STRUCTURE

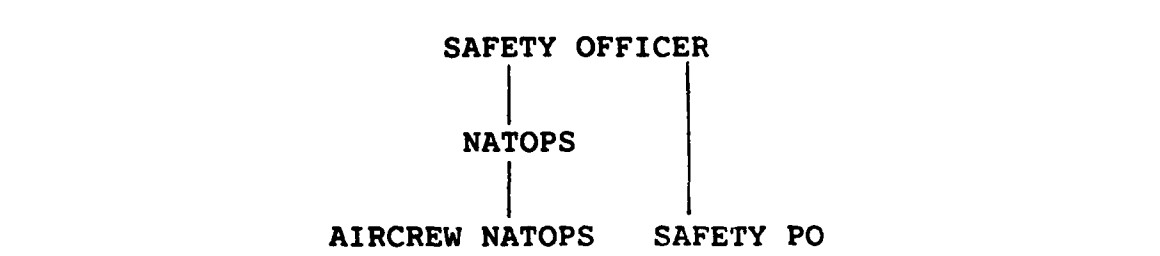
1. Introduction

As stated earlier, the design of a squadron, or any organization, is dependent upon the environment it operates in, the technology it utilizes, and the work force available to it. These constraints and the purpose, or missions of the squadron influence how it is organized. The environment that the two communities operate in are similar, they both must respond to changing external factors. The technology they utilize are comparable and will eventually converge when the SH-60R replaces both the SH-60B and SH-60F. And the work force is drawn from the same general population and it can be argued, is identical for both communities. Yet the HS and HSL squadrons are designed quite differently to perform their missions. This section will examine the squadron structures in an effort to determine the cause for their design differences.

2. HSL SQUADRON

Organizational Structure: Most HSL squadrons employ the standard hierarchial organizational structure of all Naval Aviation Squadrons, (see Figures 1 a & b), but actually operate as a matrix organization in which personnel are transferred between departments and detachments to meet changing operational and administrative requirements.





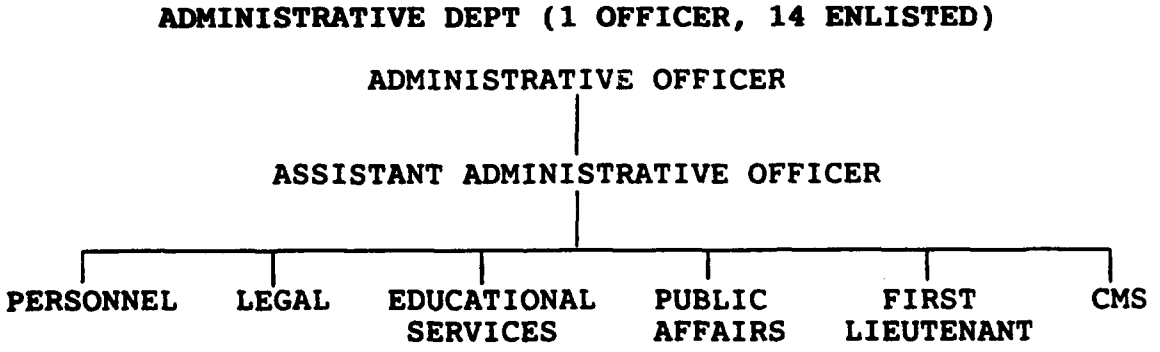


Figure 1a: HSL Squadron Organization (Shore-Based)

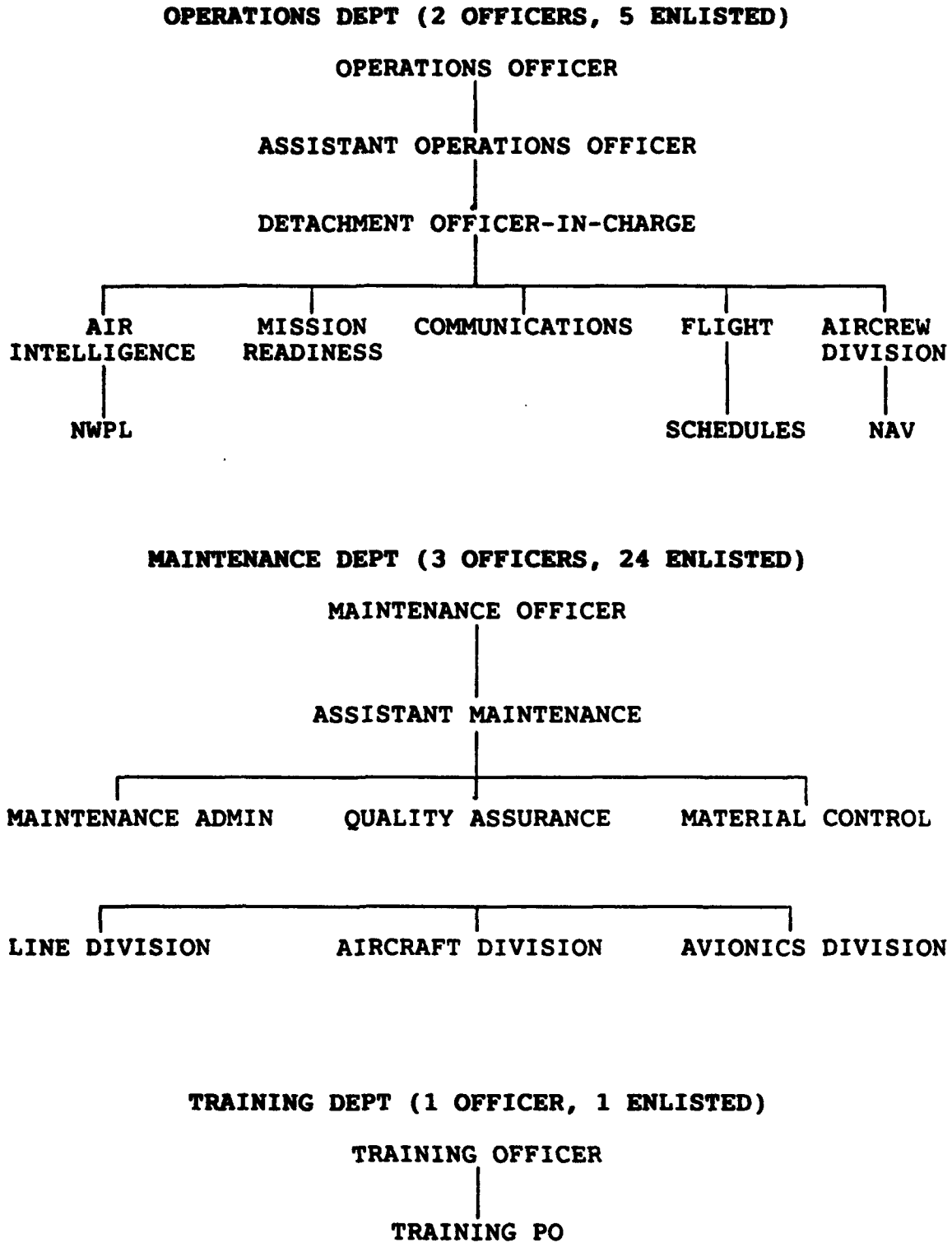


Figure 1b: HSL Squadron Organization (Shore-based)

Current HSL squadrons maintain both shore based (non-deployable) and sea duty (deployable) personnel. The sea duty personnel will transfer in and out of the squadron billets depending on their detachment schedule. This required transferring will decrease the squadron's stability to some extent. Many critical or primary billets are filled by sea duty personnel whose position must be filled in for, or replaced entirely, while they are deployed.

A typical HSL squadron is made up of 244 individuals, 50 officers and 194 enlisted. Sixty are permanently shore-based and concentrate primarily on administrative functions for the squadron and assisting the detachments. The Commanding and Executive Officers remain on shore to administer and supervise the activities of the squadron and the deployed detachments. Most officers will be assigned two to three different billets during their tour of duty in most aviation squadrons.

The mission of this squadron is to provide either single of dual helicopter detachments to deploy aboard destroyers and cruisers. Each deployed detachment is operationally controlled by the detachment's officers-in-charge (OIC). The squadron retains administrative control of the deployed units. Each detachment is made up of 15 individuals (see Figure 2), of the four officers, one is designated the OIC. The OIC is normally a Lieutenant Commander and is the most senior member of the detachment.

HSL (SEA COMPONENT) BILLET AND PERSONNEL SUMMARY

BILLET TITLE	RATING
Officer-In-Charge	0-4, Pilot
Maintenance Officer	0-3, Pilot
Operations Officer	0-2, Pilot
Administration Officer	0-2, Pilot
Maintenance Control	ADC
Powerplant Maintenance	AD2, AD3
Electric Inst Maintenance	AE2, AE3
Airframes Maintenance	AMS2, AMH3
Electrical Maintenance	AT1
ASW Maintenance	AX3
Aircrew	AW2, AW3

Figure 2: HSL Detachment Billet and Personnel Summary

The OIC works with the parent's ship Commanding Officer in determining the daily operational responsibilities of the helicopter. Each squadron is capable of deploying up to ten independent detachments with three of those detachments having two aircraft.

Today there are 11 HSL squadrons in operation, five on the East, five on the West Coast and one permanently stationed in Japan. One of the five squadrons on each coast is a Fleet Replacement Squadron (FRS) responsible training pilots, aircrew and maintenance personnel for the fleet squadrons. Each squadron maintains thirteen aircraft. Six months prior to a detachment deploying, personnel will be formed into a detachment and will be assigned an aircraft. Once formed, that detachment is responsible for that aircraft's maintenance. After the deployment, the detachment will formally stand down and be absorbed into the squadron.

3. **HS SQUADRON**

Organizational Structure: HS squadrons employ the traditional hierarchial squadron structure which also is based on shipboard organization methodology (see Figures 2 a & b). The entire squadron embarks on board the aircraft carrier as one unit. This traditional structure allows the squadron to maintain its unity of command while on shore or at sea. Since the entire squadron deploys as a unit, only sea duty personnel are assigned. The Executive Officer and the Department Heads manage the squadron personnel for the

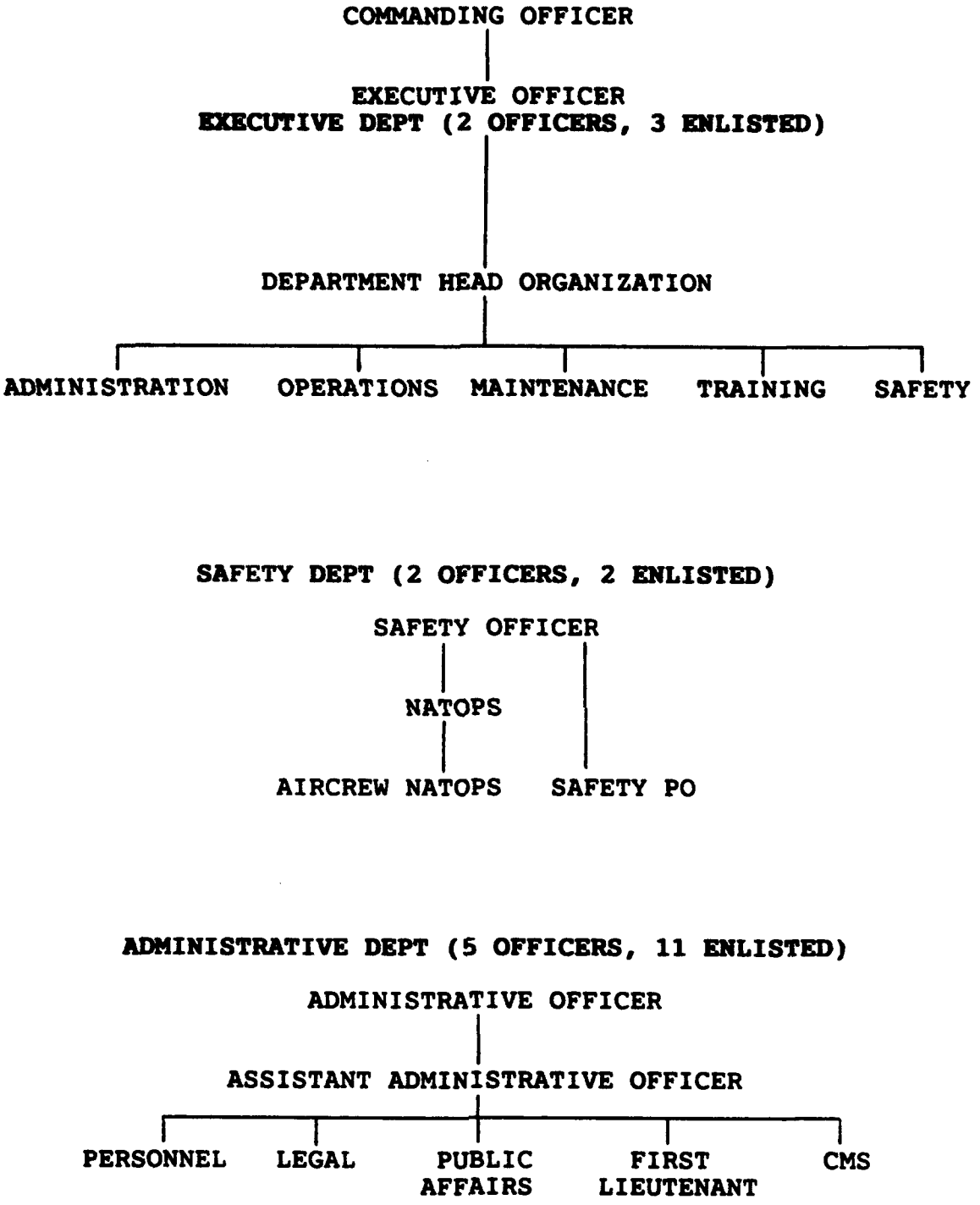


Figure 3a: HS Squadron Organization

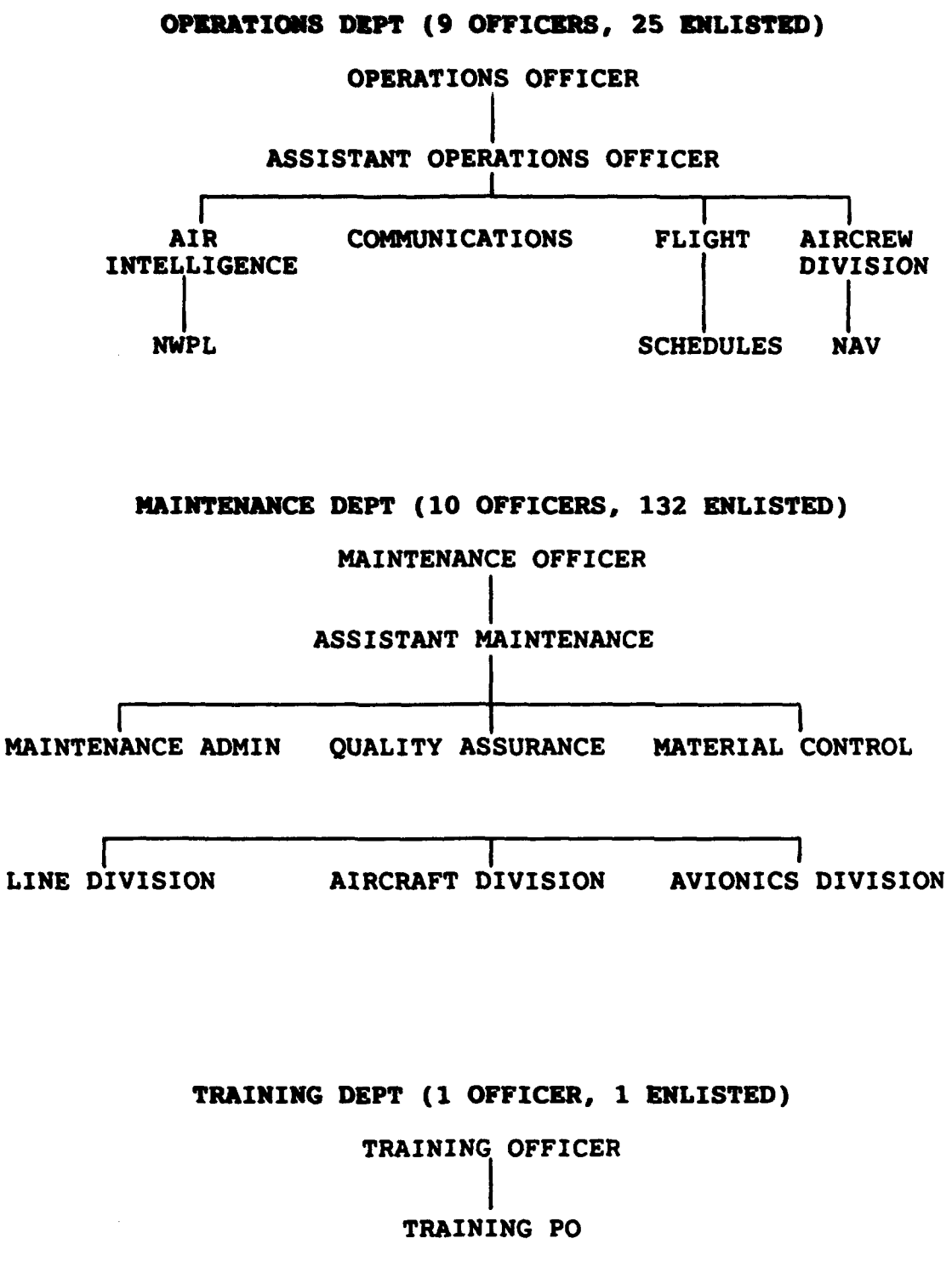


Figure 3b: HS Squadron Organization

Commanding Officer by rotating squadron personnel in and out of assigned billets. Officers can expect to perform two to three different billets during their tour of duty.

A typical HS squadron is made up of 203 individuals, 27 of which will be officers. The Commanding Officer deploys with the squadron and maintains administrative and operational control of the squadron. One or two plane detachments can be conducted but these detachments are usually short in duration. Today there are 13 HS squadrons in operation, six on the East Coast, six on the West Coast and one permanently stationed in Japan. One squadron on each coast acts as the Fleet Replacement Squadron (FRS) responsible for training pilots, aircrew, and maintenance personnel for the fleet squadrons. These two squadrons do not deploy and are permanently shore based. There is an additional squadron stationed in Japan and it is rotated into the deployment schedule of the West Coast squadrons.

C. SUMMARY

This chapter looked at the development of the HS and HSL helicopter communities. The HSL community started with three missions performed by the UH-2 Seasprite while operating off the destroyers and cruisers of the battle group and is currently flying the SH-60B and performing a variety of missions. The SH-60R is the communities aircraft of the future and with it will come additional missions to perform.

The HS community started with the HSS-1 Seabat and three missions and is currently flying two models of the SH-60 doing a variety of missions from the flight decks of the fleet's aircraft carriers.

The HSL and HS organizational structures were also compared to determine the cause for their design differences. Deployment requirements influence the organizational structure, HSL utilizes a matrix format to provide single or two plane detachments to the battle group. HSL maintains a shore-based executive branch to support the squadron's deployed detachments while HS employs the traditional squadron structure and deploys as a unit.

IV. CONSOLIDATION

A. INTRODUCTION

The previous chapter discussed how HS and HSL evolved as separate communities. Their individual developments have brought them to a juncture where a consolidation is possible. There are several forces that are pushing these two helicopter communities towards consolidation. Probably the number one reason to address this issue is the economic pressure to do more with less. The declining military budget is prompting major reductions in manpower and hardware resources. Aircraft procurement is being decreased from initial buys, in fact, the Navy recently reduced its planned total purchase of SH-60F's to 82 and SH-60B's to 181, down from the original planned 92 and 205 respectively. Many people are questioning whether naval aviation can afford the luxury of maintaining two separate and distinct infrastructures to support the HS and HSL helicopter communities. Because of the economic squeeze, there is a search for a better way of doing business.

The second force that seems to be pushing the communities towards consolidation is the development of their helicopters. After 40 years, HS and HSL are flying similar aircraft with the possibility both communities will fly the SH-60R in the future. With the arrival of the SH-60R will

(FRS's). A natural progression in this evolution may be the uniting of both these helicopter communities into one multi-mission squadron.

There are political and operational forces opposing a consolidation that will have to be overcome before the two communities can be combined into one. While HS and HSL are flying similar helicopters their missions have become more dissimilar. The end of the Cold War resulted in a decrease in the Soviet submarine threat and ASW lost much of its prominence and now shares the spotlight with ASST, CSAR, and ASUW missions. HSL has aggressively promoted its capability for ASST but has shown less interest in the CSAR mission. HS has enthusiastically pursued the CSAR mission but has ignored the ASST role. While the two communities' aircraft became similar, the utilization of that aircraft became more diverse.

These two communities contrast significantly in how they are structured to handle deployments. HS deploys as a single unit while HSL sends independent detachments. This operational difference in "how they do business" promotes the belief within their respective communities that they should continue to remain separate. This belief is further nurtured by the parochialism which has developed over the years within the communities.

If these two helicopter communities are to be united the political, operational and other organizational differences

will have to be overcome. If it can be proven the advantages of uniting the communities is greater than the disadvantages then the case for consolidation will have added weight. The following sections of this thesis will examine these issues and compare the advantages of consolidation against the disadvantages. The facts bearing on both sides of consolidation are based on the responses given by the commanding officers (CO's) of the HS and HSL fleet squadrons during their interviews. Each CO was asked, based on their past experiences, whether they felt that the two missions and communities should be consolidated and what are the advantages or disadvantages to consolidating?

B. THE PROS AND CONS OF CONSOLIDATION

1. Advantages

The following is a list of the most commonly cited advantages for consolidation from the interviews of the HS and HSL CO's:

Manpower Savings: It is difficult to determine the total reduction in manpower that will be realized by combining the two communities. Several factors influence the final number of personnel who will be required to outfit the consolidated squadron. Manpower requirements will vary depending on the new structure's size and organizational shape. If the new structure resembled a HS type structure for example, then the 60 shore-based personnel of the

current HSL squadrons would be eliminated and constitute a manpower savings.

Additionally, the effects of consolidation are far reaching and manpower savings will occur throughout the support structures of the two communities. These infrastructures provide the logistic and maintenance support, the staff hierarchies, and the training commands of these helicopter communities and will be reduced with consolidation. As an example, the FRS for the HS community has approximately 60 officers and 336 enlisted personnel in each of its two training squadrons while the HSL FRS has 43 and 250 respectively. If the FRS's are consolidated then the totals would be reduced to an estimated 68 officers and 381 enlisted per training squadron resulting in a 240 reduction in manpower requirements.(Squires, 1994, pp.1)

Monetary Savings: The actual savings realized by combining the two communities will also vary with the choice of consolidated organizational structure. Any reduction in manpower equates to long range monetary savings. As an example, if the communities were combined and the shore-based personnel of a single HSL squadron were eliminated, the monetary savings would amount to approximately 1.2 million dollars per year in reduced salaries. (This savings computation was estimated by totaling the yearly salaries of all the shore-based personnel.) Since budgetary forces are the biggest force pushing these two communities to unite

then fiscal savings will play an important role in consolidation.

Aircraft Commonality: Although the H-60 variants are similar in appearance, specific common parts and equipment on the aircraft is estimated to be in the range of 35 percent. The avionics vary greatly between models and cannot be interchanged. With consolidation, the benefits gained in both supply support and maintenance efforts will be realized by flying similar aircraft within the same squadron.

Community Lessons Learned: Through consolidation, the Navy has the potential to capitalize on the strengths of both communities and become more effective. Each has developed different methods of deploying and performing their missions, and by combining the two, the best operational elements of both can be maximized to increase the efficiency of the helicopter community overall.

Command at Sea: Most of the CO's felt it was important to keep some kind of helicopter command at sea. The reasons varied from "providing a little adult supervision" to keeping the opportunity for promotion to carrier command open to the community. Most HS CO's felt being at sea when "the war" started was advantageous in evaluating the current environment and in making the right operational decisions for the squadron.

2. Disadvantages

Command Opportunity: All CO's acknowledged consolidation will result in a reduction in command opportunities as the number of squadrons are decreased. They also stated that similar consolidations in other aviation communities have eliminated their command opportunities and these reductions are further magnified by the current budget climate.

Mission Saturation: Some of the CO's felt the disparity in mission areas would make it difficult to train aircrews to be proficient in all areas. They felt an attempt to do so would sacrifice "depth for breath" and overall war fighting capability would suffer.

Political Influence: Some felt political influence of the new organization would be lessened after consolidation, in that, support for issues such as tactics, manpower and material, to name a few, would now come from only one sponsor.

Span of Control: There were a number of CO's who believed having one CO responsible for one large squadron that sent detachments throughout a battle group would cause problems in administrative and operation control. The CO on a carrier could not provide the support for the detachment operating independent of the battle group, at any rate, the support would be less than the current HSL system.

Surface Ship's Authority: The HSL CO's voiced an uneasiness that consolidation would lessen the surface ship's authority concerning helicopter's operation. Some felt this would destroy the teamwork the HSL and surface Navy have established and undermine the authority of the surface ship's CO.

Community Identity: With consolidation comes the fear that one community will lose its identity. Some CO's feared the community specific lessons learned throughout the years would be lost as a result.

These were the advantages and disadvantages cited most often by the interviewed commanding officers in reference to consolidation. Many of the advantages and disadvantages were dependent on the structure of the consolidated squadron. The next section will look at several options of what this "new" squadron should look like and how they will meet the mission and operational requirements of the environment they will be asked to operate in.

C. ALTERNATIVE SQUADRON ORGANIZATIONS

1. Introduction

Organizational structures must be designed to fit the environment in which they operate. Any consolidated squadron would be required to perform all the missions currently executed by the HSL and HS communities. The new structure would have to be versatile enough to cover the entire

spectrum of these missions plus new missions currently being added to the helicopter communities.

The following alternative squadron organizations are structures suggested during the interviews with the current CO's of the HSL and HS squadrons from both coasts. These structures are all capable of performing the current missions and flexible enough to absorb the new missions of the future. These structures have advantages and disadvantages associated with each and they will be discussed in Chapter V.

2. HSL PROTOTYPE STRUCTURE

When asked what the consolidated squadron should look like most of the HSL CO's proposed a HSL type squadron structure. Most HSL CO's felt consolidation was not a good idea, but if consolidation was to occur, then their's was the preferred structure. In this configuration all the different variants of H-60's would have their own squadron organization, currently there are three variants operating in the fleet, the SH-60B, SH-60F and HH-60H. These three organizations would be modeled like the current HSL structure. The CO and XO would remain shore-based and detachments would be stand up for deployment to all the ships in the battle group. The mix of helicopters deployed from this prototype would depend on the battle group commander's assessment of anticipated threats and the helicopter requirements needed to meet these threats.

When the SH-60R begins entering the fleet in 1998 and eventually replaces both the SH-60B and SH-60F, then the number of HSL type organizations would be reduced. Additionally, if the HC community, which supplies logistic support to the battle group, purchases a H-60 variant to replace the aging H-46 then another HSL type organization would be added.

This HSL prototype structure would not be so much a consolidation of squadrons but more a different method of deploying. The HS method of deploying entire squadrons would disappear and all Battle Group requirements supplied by detachments. Detachments stand up and work with their assigned ships throughout work ups and the deployment and then return to their mother squadron after deployment. This structure has many advantages and some disadvantages and these will be highlighted in the next chapter.

3. HS Prototype Structure

When asked what the consolidated squadron should look like every HS CO proposed a HS type structure. Almost every HS CO felt consolidation should be accomplished and if the communities were combined they should form one large squadron of 12 to 16 aircraft and deploy as a entire unit. From this unit the detachments would stand up and detach to the surface ships throughout the battle group. The different types of H-60's would be contained in this one squadron with every pilot qualified to fly each type. This large squadron

would employ the traditional squadron structure similar to the current HS squadrons and the CO and XO would deploy with their squadrons on board the aircraft carriers. Flexibility to change operationally would be accomplished by cross decking the aircraft to ensure the assets met the threat. SH-60B's could be replaced with SH-60F's if the ships were transiting an area were sonar dipping was required.

When the SH-60R enters the fleet and eventually replaces both the SH-60B and SH-60F then the number of H-60 variants per squadron would be reduced from three to two. If the HC community purchases a H-60 variant then the issue of whether they should be consolidated into this large HS type squadron would be addressed at that time.

The HS prototype structure would be a true consolidation of squadrons and missions. The HSL squadrons and deploying method would be combined into the HS squadrons and method of deploying. The main squadron structure would deploy on board the carrier and detachments would be stood up to work with the surface ships through work ups and deployment. The aircraft "mix" could be adjusted to meet any operational requirement the situation dictates. Specific advantages and disadvantages will be discussed later.

Modified HS prototype: A modified version of the HS type structure was recommended by three of the HS CO's. The center piece of this structure would be an HS type organization that contained the absolute minimum number of

aircraft and personnel to handle the helicopter requirements for a deployment. As an example, if the majority of the battle group deployments required 12 helicopters to meet operational commitments while an occasional required 16, the base squadron would contain 12 helicopters. This unit would always exist and forms the basic squadron. It would contain the executive department and a core element of all the other departments that make up the traditional squadron structure.

To supplement this core unit, either the FRS's would have a portion of the squadron dedicated for sea going detachments or the requirements would be filled by small HSL squadrons. If a battle group commander wanted more assets for a deployment this additional requirement would be manned from the sea side of the FRS squadrons or the HSL squadrons. The personnel transferred would be under the operational control of the CO of the deployed squadron. They would be assigned to the core squadron for the work up period and remain in the squadron for the entire deployment. After the deployment they would be returned to the FRS's and resume their instructor duties or be transferred back to their original squadrons .

The core squadron would be assigned a minimum number of each type of H-60 to meet the requirements of an average deployment. The Battle Group Commander could request from the Type Wing Commander additional aircraft and personnel to meet anticipated needs for deployment. The Type Wing

Commander would assign the additional personnel and aircraft to the core squadron.

This structure would consolidate the strengths of both the HS and HSL communities. The squadron would deploy as a unit with detachments sent to the destroyers and cruisers of the battle group. The squadron's command structure would be at sea to coordinate the helicopter effort. The squadron size and make up would be flexible enough to change with the anticipated operating environment before the deployment and, once deployed, could be adjusted by moving the helicopters around the battle group to meet new requirements that develop.

4. Hybrid Structure

A combination of the HS and HSL type squadron structures was proposed by a few of the CO's. This structure would start with three HSL type organization, like the structures proposed earlier, with each H-60 variant having its own squadron organization. Each aircrew would be qualified in the model aircraft of their parent squadron and be responsible for the missions associated with that model aircraft. From the three HSL type organization detachments would be sent to stand up a HS type squadron large enough to supply all the helicopters for the entire battle group. Like the HS prototype structure, this squadron would deploy on the carrier and send detachment to the destroyers and cruiser of the battle group.

This squadron would have a command structure like the HS squadron and the CO and the executive branch would deploy on board the aircraft carrier. The CO and XO of this squadron would come from the CO's and XO's of the HSL type organizations on a rotational basis. The squadron would stand up six months prior to deployment. The mix aircraft for the squadron would depend on the battle group commander's assessment of the anticipated threats and the helicopter types required to meet those threats. After the deployment, the squadron would be dissolved and absorbed back into the HSL type organizations.

D. MAINTAINING THE STATUS QUO

Most HSL squadron CO's stated that consolidation was not necessary and that the status quo should be maintained. They believed the helicopter deployment system was not broke so they asked "why fix it?" They felt the budget should not be the driving force for consolidation. If the communities had to make a change then they should re-structure internally and not consolidate in response to the external changes. As one CO said, "If you ignore all the political garbage and look at what is smart for everybody concerned, to command opportunity, to being able to do lots of missions well, you don't combine yourself into one big squadron."

Maintaining the status quo was virtually a unanimous choice among the CO's as the alternative to consolidating. Most acknowledged that by maintaining the status quo, the HS

squadron's ASW mission would be lost, or at least it would disappear soon after the arrival of the SH-60R. This belief was based on the current trend to remove the SH-60F from the carrier. Removal of the SH-60F from the carrier would require the HSL community to protect the carrier from the inner zone subsurface threat. This protection would be provided by a detachment of SH-60R helicopters assigned to the aircraft carrier or from a escort ship with a SH-60R detachment on board.

E. SUMMARY

This chapter addressed the issue of consolidating the HS and HSL communities. The advantages and disadvantages of consolidation were based on the responses given by the CO's doing their interviews. The perceived advantages for combining the communities were the potential manpower and monetary savings, the benefits gained by utilizing aircraft commonality, the shared lessons learned between the communities, and the potential to keep a helicopter command at sea.

The disadvantages associated with consolidation were perceived to be a reduction in command opportunity, the fear of mission saturation, loss of political influence, an increased span of control, a decrease in the surface ship's CO's authority, and a loss of community identity for one of the current communities.

Four alternative squadron organizations were proposed as possible consolidated structures. These included a HSL prototype structure, two HS prototype structures, and a hybrid structure. These organizations were mentioned by the CO's as possible replacements for the current two community system. Additionally, the advantages and disadvantages of maintaining the status quo were also examined.

V. ALTERNATIVE SQUADRON ANALYSIS

A. INTRODUCTION

Chapter IV introduced four new squadron models capable of performing within both the HS and HSL environments. These squadrons can perform all the missions currently being conducted by the communities and are flexible enough to add future missions. In this chapter, the advantages and disadvantages of each of these new organizations will be analyzed. These advantages and disadvantages were identified from the interviews of the squadron CO's.

B. HSL ORGANIZATION MODEL

1. Advantages

A modification of the current HSL command structure was the first new organization introduced. In this model each H-60 variant had a separate HSL command structure that would send detachments to fill all the battle group helicopter requirements. This model has the following advantages:

Organizational Flexibility: The number of commands can be increased or reduced to reflect the number of H-60 variants operating in the fleet. Additionally, when the HC community replaces the H-46 with a H-60 variant another organization (much like the current HC squadrons) will be formed. Should the SH-60R replace both the SH-60B and SH-60F

in the future then the number of HSL organizations would be reduced. The size of these commands will vary in personnel and billet strengths based on the demand for each particular H-60 model. Each HSL organization would find its own optimal size to meet fleet requirements.

Operational Flexibility: Detachments stand up based on requirements provided by the battle group commander. These requirements are based on the world situation and where the battle group is expected to operate. For an example, if the battle group was scheduled to operate in the open ocean and away from any subsurface threats then the battle group commander may require fewer SH-60F's and more SH-60B's and HH-60H's. The mix of the H-60 variants requested would vary to meet the anticipated threat.

This organization is ideal for single plane detachments supporting surface ships operating independent of the battle group. In the last three year period over 60 percent of all HSL deployments were independent of the battle group. Single detachments stand up from any one of the squadrons and deploy independently. Additionally, supporting an amphibious ready group (ARG) from this model is similar to supporting a battle group.

Reduced Infrastructure: Currently two infrastructures are required to support the two separate communities. As stated in Chapter III, if the battle group commitments were handled entirely with detachments then the infrastructure

would be structured to only support the detachment method of deployment and result in savings in manpower and money.

Mission Specialization: Aircrew would only be required to specialize in one type of aircraft. Each H-60 organization would only perform their specific missions. A pilot flying a HH-60H would not be required to perform ASW. Mission specialization would limit the number of required missions each aircrew was responsible for and prevent, as one CO remarked, "sacrificing depth for breath."

2. Disadvantages

This model also has some disadvantages which are highlighted below:

Command at Sea: If all battle group requirements are supported by detachments then a squadron CO would be removed from the carrier. Removing the CO causes several problems. The OIC for the carrier detachment would be at a positional disadvantage to the other squadron CO's when fighting for berthing/squadron spaces, flight deck time, and many other daily conflicts that arise on board an aircraft carrier.

Without a CO commanding a full squadron onboard the carrier the relationship between the helicopter community and the fixed wing community could be lessened. The helicopters would cease to be a part of the air wing and be viewed as support units. Additionally, without a helicopter CO competing against the fixed wing CO's for fitness reports the opportunity to command a carrier would be closed.

Command of a carrier is seen as a required billet for carrier based pilots to be competitive for promotion to Flag rank.

Inflexibility Once Deployed: Once a detachment has been assigned to a ship, the ship's CO exercises operational control of that detachment. Each ship's CO uses their helicopter asset for their own purposes and there is little coordinated utilization of battle group helicopters.

FRS Consolidation: With each H-60 variant having its own command structure and mission requirements there would be little incentive to consolidate the FRS training squadrons. Consolidating the H-60 FRS's "just wouldn't make sense" for the same reasons argued against combining the FRS's in the spring of 1993. Increased span of control, increased training time, and an increase some billets would make consolidation unfeasible.(COMASWWINGPAC, 1993, pp.2)

Increased Manpower: This structure could potentially increase the manpower required to support the battle group. The HS structure would be replaced by two HSL type organizations. Each of these would have a portion that was strictly shore based. The switch to the HSL type structures would most likely increase manpower requirements which is counter to one of the major forces driving the consolidation question.

3. Assessment

The supervision, inflexibility, and coordination disadvantages could be minimized by placing a post command commander on the battle group commander's staff to function as helicopter element control (HEC). This would place a senior helicopter officer on the carrier to fight the daily battles for the carrier helicopter detachment. The HEC would also be responsible for supervising the helicopters of the battle group and act as the point of contact for all helicopter coordination and operations.

The FRS's could be consolidated and replacement aircrew going through training would undergo a mission specific flight syllabus oriented to their H-60 model. This would require the FRS's to expand training to support different mission requirements within the same broad syllabus.

Initially the increase in manpower may be a temporary sacrifice for a more efficient use of H-60 helicopters. This efficiency in how the helicopters are utilized may pay enough dividends to reduce manpower requirements in the long run when the HSL organizations finally find their optimum size.

C. HS ORGANIZATION MODELS

1. Advantages

The second new model introduced is a modification of the current HS structure with all H-60 variants being

organized into HS squadrons which deploy an entire squadron and sends detachments to fill the battle group requirements. This model has the following advantages:

Command at Sea: For reasons stated earlier, keeping a helicopter CO on the carrier is advantageous to the squadron and the helicopter community. By deploying with the squadron the CO would be able to interface with the carrier's battle group staff. The staff would have available a helicopter subject matter expert. The squadron CO would be a true HEC, available to answer questions and coordinate all the helicopters of the battle group.

Having the CO at sea and controlling all the helicopters will aid in integrating the community into the air wing and result in an effective utilization of helicopter assets. The CO's presence will influence the behavior of the rest of the squadron and set the standards in operating procedures. Additionally, the CO will have control over the missions assigned to the squadron. Finally, most CO's interviewed felt it important to keep a helicopter command at sea to preserve the opportunity to command a carrier.

Flexibility (while deployed): Coordinated movement of aircraft and crews around the battle group ensures the best assets were positioned according to the operational threat thereby increasing warfighting capability. Maintenance advantages can be gained by positioning the aircraft

requiring major maintenance on ships that best facilitate the work being accomplished. Helicopters requiring phase inspections can be swapped with an "up" aircraft until the phase is completed. The carrier's supply and AIMD departments would be available to support the detachments with parts and intermediate maintenance.

FRS Consolidation: Unlike the HSL model, since every pilot would be required to fly every type helicopter and be responsible for all the missions then FRS consolidation would be necessary to provide the proper initial training. By consolidating the FRS's, savings in manpower and aircraft assets would be realized. Each FRS consolidation would result in an estimated reduction of 35 officers and 205 enlisted personnel and a reduction of 10 aircraft. (Squires, 1994, pp.1)

Aircraft Parts Commonality: If one squadron owned all the H-60 variants the maintenance advantages presented by the aircraft commonality can be realized. It is estimated that 35 percent of the aircraft parts are common to all H-60 models, most of the differences are in the avionics systems. This 35 percent offers a potential for significant savings in parts inventory and maintenance effort not currently being realized.

Reduced Infrastructure: Again, as in the HSL model, the number of communities would be decreased resulting in a

reduction in the infrastructure supporting helicopter operations.

Reduced Manpower Requirements: By eliminating the HSL structure, with its shore side, the manpower requirement would be reduced by 60 billets for each HSL squadron eliminated. This reduction represents the personnel that make up the shore side of the HSL squadron. Since the HS squadron already has an executive and administrative staff to support the squadron these individuals would be redundant and their billets could be eliminated.

Additional manpower savings may be realized by reducing the overall number of detachments required to fill battle group requirements. Currently there are four HSL squadrons on the East Coast capable of deploying 13 detachments and consisting of 244 squadron members. Resulting in a total manpower requirement of roughly 1985 (970 HSL and 1015 HS). Consolidation to a 16 helicopter HS format would increase each HS squadron by the manpower required fill eight detachments, or about 120 individuals. This would reduce the overall manpower requirement to approximately 1625 (five squadrons times 323).

Reduced Helicopter Requirement: Consolidating to a HS structure would reduce the current helicopter requirement. On the West Coast (including the squadrons stationed in Japan) there are six HS squadrons operating with eight aircraft each and five HSL squadrons operating with 13

aircraft per squadron for a total of 113. If consolidation resulted in six HS squadrons operating with 16 aircraft per squadron the total would be 96. On the West Coast alone, consolidation would result in reducing helicopter requirements by at least 17. The CO's interviewed estimated 16 helicopters were required to adequately support a battle group.

2. Disadvantages

Organizational Inflexibility: This HS model is rigid in its design. It is made up of a fixed number and type of helicopters. It would be unable to change aircraft mix and numbers to adjust to the battle group's requirements and would deploy with all of its helicopters whether they were required or not.

Without a permanent shore-based element, this model is not suited to handle the single plane detachments. Over 60 percent of the HSL detachments in the last three years have been independent and operated without the battle group. This HS model would also have difficulty handling the ARG deployment because fewer than 16 aircraft would be required to support an ARG.

Span of Control: A squadron of this size and operational shape may be too large for the command structure. A squadron of 16 aircraft would consist of approximately 400 individuals. Administering a squadron this large may not be unmanageable. There are larger squadrons

but they are not required to deploy on an aircraft carrier with several detachments operating thousands of miles from their base squadrons. Operational and logistic control of this model may prove difficult.

Training Overload: Many CO's felt the missions were too numerous and varied for an aircrew to become proficient in all of them. FRS training would have to be extended to expose an aircrew to the combined missions. Once in the squadron, the number of missions would make keeping current and proficient in all of them difficult. Even if currency is maintained, the level of expertise may decline and, as one CO stated, "the aircrews may become jacks of all trades and masters of none."

Mission Specialization: To respond to the training overload some CO's felt that mission specialization within the squadron would result. A pilot would become mission qualified in a specific mission area (CSAR, ASST) and would fly only those missions. Most felt this specialization would defeat one of the purposes for consolidating, achieving operational flexibility, and also cause morale problems if one mission area was seen as better than the others.

3. Assessment

The organizational design of this model may be inflexible but this design is also one of its strengths. Because the squadron deploys together and stays together when it returns higher morale and retention results.

Additionally, the command structure and squadron integrity is maintained during deployments.

The question of what to do about single plane detachments and ARG support poses a greater problem. These requirements can be rotated among the HS squadrons so as not to interfere with their deployment schedules. Another method of handling these detachments would require setting up a HSL type squadron to supply single helicopter detachments and ARG requirements. This squadron would be in addition to the squadrons responsible for battle group deployments. A third method of handling these detachments is to configure the FRS with a sea side when it undergoes its consolidation. This sea side would be responsible for handling single aircraft detachments.

Almost all the HS CO's felt the increased span of control would not be too difficult to manage with this model. They felt this organization's span of control would not be different from what is currently being done in the HSL squadrons and once a detachment went over-the-horizon it was basically independent of the squadron.

Initially the training overload could be reduced by not requiring all pilots to be qualified in every mission area and allowing the community to grow an overall expertise. This may lead to a temporary situation of mission specialization, however both communities viewed this as a necessary evil until the corporate knowledge of both

communities developed through the new organization. In addition to allowing the knowledge to spread throughout the community, first tour pilots should concentrate on one mission area (carrier operations) for their first deployment and focus on the other mission area (detachment operations) for their second deployment.

4. Modified HS Organization Model

The second HS organization proposed in Chapter IV would also solve some of the disadvantages of the first HS type structure. Instead of having the maximum number of aircraft to handle every situation a battle group may encounter the core squadron would be outfitted with the minimum number of aircraft to handle normal battle group requirements. This structure would provide more predeployment flexibility with the sea side of the FRS or small HSL squadron supplying additional aircraft and personnel on an as needed basis and handle the single plane detachments while the core squadrons would be responsible for supporting the ARG deployments. Configuring the FRS with a sea side may cause some problems but it is not unprecedented, for example, HS-1 (the East Coast FRS) was organized with a sea side that handled single aircraft requirements.

This modified HS type structure will reduce the span of control and training overload problems. The basic core squadrons would be smaller than the first new HS squadron

model. Since these detachments would operate independently of the squadron they would require only administrative support. The personnel transferred from instructor pilot billets at the FRS would be at a minimum on their second tour and qualified in mission areas they would be assigned; furthermore, with their expertise the number of pilots requiring training in the core squadron would be manageable.

This modified HS version would have all the advantages the larger HS squadrons had and may further reduce manpower and aircraft requirements. The squadron would only deploy with the personnel and aircraft assets that were needed to fulfill the missions.

D. HYBRID ORGANIZATIONAL MODEL

1. Advantages

The final organization proposed combined the HS and HSL type squadron structures. This hybrid structure started with the HSL type organizations that sent detachments to form a HS type squadron. This structure has many of the advantages of both HS and HSL type organizations, and some are listed below:

Flexibility: This structure would have totally flexibility. It could increase and decrease in size with the number of H-60 models operating in the fleet. Internally, each HSL organization would find its optimal size based on demand. Operationally the squadron could be formed to the battle group commander specifications and once deployed, the

squadron assets could be freely positioned to meet the anticipated threat. Finally, this structure could support either the single plane detachments or the ARG's with little difficulty.

Reduced Infrastructure: The infrastructure supporting this hybrid organization could be reduced from the current dual support systems to a single support system.

Command at Sea: With the CO deploying with the squadron a helicopter command at sea would be maintained along with all the advantages associated with having a CO at sea.

Aircraft Commonality: Greater utilization of aircraft commonality may be realized by the combined squadron than is currently being employed.

2. Disadvantages

There are two major disadvantages to this structure and they are:

FRS Consolidation: With each H-60 variant having its own command structure and mission requirements there is little incentive to consolidate the formal training squadrons. The FRS's could be consolidated but the increased span of control, the increased training time, and a potential increase in key billets may make consolidation unfeasible.

Increased Manpower: This structure could potentially increase the manpower requirements over the requirement of

the HSL alternative organization. Deploying a CO and an executive department would increase the number of personnel.

E. STATUS QUO

1. Advantages

The unanimous choice among all the CO's as an alternative to consolidating was to maintain the status quo. The current two community system has its advantages which are highlighted below:

Command at Sea: The CO's authority would be limited to the helicopter squadron embarked on the carrier but the status quo would keep a helicopter CO at sea.

Proven Deployment Methods: HS and HSL have developed over the last 40 years into the systems they are today. The deployment methods have been tried and tested to be effective in meeting battle group requirements. As several CO's said, "The system is not broke so why fix it?"

Community Identity: The status quo will allow both communities to exist. Consolidation would eliminate one of the communities and, as some CO's feared, a loss of that community's history and lessons learned.

Flexibility: The two methods of deploying provide the needed flexibility to the battle group commander. The HS deployment method provides the bulk of the helicopter requirements and the HSL detachments supply the specific helicopter needs. The detachments give the battle group commander flexibility in selecting the helicopter mix.

Mission Specialization: Each community has specific missions they perform. Aircrew training is concentrated on these missions to maintain their qualifications. Mission specialization limits the number of required missions each aircrew is responsible for and helps prevent mission overload.

Caution: Many CO's felt the political and operational environments are changing to much to make such a drastic move like consolidation. They felt it was safer to wait and make the decision to consolidate when the SH-60R began entering the fleet in 1998.

2. Disadvantages

There were no specific disadvantages to maintaining the status quo. Some Co's felt if the helicopter community did not come up with a viable alternative to respond to today's budget pressure a decision would be made external to the community. By not consolidating, some of the potential advantages will not be realized but the disadvantages of consolidation will also be avoided.

E. SUMMARY

This chapter focused on the advantages and disadvantages of the four proposed alternative organizations and those associated with maintaining the status quo. The HSL type organization provided positive benefits in its flexibility, both organizational and operational, in reducing the infrastructure, and in mission specialization, the greatest

benefit is the flexibility of this organization. Lost command at sea, an inflexibility while deployed, difficulty in consolidating the FRS's, and a possible increase in manpower requirement were considered disadvantages with this form of a consolidated structure. The lost of a command at sea and the lack of manpower reduction pose the largest foreseeable negative factor.

The HS organization models produced two types of structures. First, one large HS squadron, scored advantages in keeping a helicopter command at sea, in its flexibility when deployed, FRS consolidation, utilization of aircraft commonality, in reducing infrastructure, and in reducing manpower and aircraft requirements. The reduction in the manpower requirements is the most attractive benefit of this structure. The disadvantages were its organizational inflexibility, the increased span of control, the possible training overload and the mission specialization that might result. This organization's inability to handle single detachments and changing requirements are the biggest limitations of this model.

The second HS model was a modification of the first and provided more organizational flexibility and built on the advantages of the first model. The modified structure also relieved some of the disadvantages caused by the increased span of control and training overload. Neither HS model

addressed the possibility of the HC community purchasing a H-60 variant.

The last organization was a hybrid structure that had advantages in its flexibility, in reducing infrastructure, maintaining a command at sea, and realizing the benefits of aircraft commonality. This model's organizational and operational flexibility are its main attraction. The disadvantages were few but unfortunately quite serious. It would make consolidation of the FRS's difficult and may actually increase the manpower required over the current two community system.

VI. CONCLUSIONS AND RECOMMENDATIONS

A. CONCLUSIONS

This thesis has covered the development of the HS and HSL communities. It has reviewed the current structures of the squadrons that make up the two communities. The issue of consolidation was addressed and four alternative organizations were proposed. An analysis of the advantages and disadvantages of these organizations was provided and the merits of maintaining status quo were discussed. The question is, "Where do we go from here?"

If you listen to half of the HS and HSL CO's and follow the guidance of the "Vision 2005" brief then you stay with the status quo and make adjustments to the current two community system. An argument for this position can be made under the current circumstances. The current structure is a proven system that maintains the two communities' identities. With the world and economic conditions continuously changing it may be wiser to wait before making any corrections to the current system. After all, as suggested by several CO's, "if it ain't broke, why fix it?"

On the other hand, while "it" may not be broke, the environmental conditions surrounding the two communities is changing. How long can the current system fit it's internal and external constraints if it does not adjust to these

conditions? Persistent pressure to balance the budget and rising health care costs are putting a squeeze on all government-funded programs. The military has been asked repeatedly to make further cuts in its budgets and this trend will continue into the future. The decreasing defense budget is driving many, if not all, of the decisions being made in our military systems. Cost savings may be the deciding factor that pushes the two communities to consolidation.

The defense budget is not the only environmental constraint that is changing. The Navy is changing and must respond to new challenges to national security. Open ocean operations is being replaced by littoral warfare. The HS and HSL missions are changing to support this warfare orientation. Amphibious operations, air-to-air defense, and anti-ship defense will play greater roles in the missions of the two communities. The technology utilized by HS and HSL continues to change. The SH-60R will increase the capabilities of the ASW helicopters. Technological advances will enable the helicopter aircrew to perform the new missions associated with littoral warfare. And manpower reductions are changing the work force available to the communities. Fewer personnel are being asked to do more and more missions and tasks. All these factors require an adjustment by the current naval structures in order to become both a capable and affordable warfighting force.

The reality of the economic situation requires the HS and HSL communities look to the future and plan accordingly. It is most likely the two structures will be consolidated in the future; powerful fiscal and technological forces are driving them in that direction. The push for a balanced budget will require many hard choices and the ASW helicopter community's sacrifice may be the current two structure system. The next decision to be made is what will this consolidated structure look like?

Of the four proposed alternative structures, the modified HS type organization with a core squadron supplemented by small HSL squadrons offers the most promise in reducing manpower requirements and still providing the warfighting capabilities. This organization has the flexibility to meet the operational commitments of the future and still provide significant savings in manpower. It will be able to perform all the missions with fewer aircraft and keep a helicopter command at sea. It will enable a merging of the two communities lessons learned, taking the best of both and become a more effective fighting force. And perhaps best of all, this system will produce aircrews who are more knowledgeable about surface Navy operations. Currently, HS or HSL is extensively knowledgeable in one mission area or the other. Consolidation will generate pilots who have flown under both operational conditions and produce uniquely trained individuals.

The perceived disadvantages to consolidation and to this form of combined structure may result from fear of change. Change causes anxiety from the people or organizations in power because their position may be affected by the change. Concerns of mission specialization, loss of political influence, span of control, and loss of community identity may be based more on anxiety than on facts. There are aviation communities that perform many missions (F/A 18) and are larger (P-3). More political power may result from the two communities speaking as one. In this researcher's view these disadvantages are not substantive enough to prevent consolidation. They are obstacles that can be overcome. Additionally, if an attempt to consolidate the two communities failed, the communities can always be separated again.

B. RECOMMENDATIONS

1) The Navy form a Project Action Team to continue studying the issues surrounding combining the HS and HSL communities. This team will be made up from individuals from both communities. The study will continue to focus on the benefits associated with consolidation and on possible alternative organizations, with particular attention paid to manpower savings and warfighting capabilities.

2) Additionally, the team would plan the implementation of the consolidation of the two communities. It is recommended that a model similar to the current HS system be

employed in the new organization. This will maximize the reduction in manpower while preserving warfighting capability. Any consolidation would be required to utilize the lessons learned and personnel from both HS and HSL.

Consolidation planning should begin now so the communities are ready to execute an effective course of action when the economic conditions dictate a restructuring. Failure to plan for this contingency may force the consolidation decisions to come from outside the communities. The author strongly feels HS and HSL must consider themselves as one helicopter community. Only through strength of unity will each protect the common interest of both. It is time to replace individual community views with a genuine desire, through consolidation, to do what is best for the ASW community and the Navy as a whole.

From: LCDR Raymond B. Roll, USN
To: Commanding Officer, HS-XX

Subj: Interviews to discuss consolidation issues

1. I am currently researching the advantages and disadvantages associated with consolidating the HS and HSL missions and would very much like to meet with you to obtain your ideas on this subject. I am doing this research as part of my thesis work for the Naval Postgraduate School. I plan to be in San Diego during the week of Dec 20 - 24, 1993 to do interviews with current and past Commanding Officers of both HS and HSL squadrons. I will contact your office on Monday (Dec 20) to schedule a specific time for a meeting with you.

2. The following areas will be covered, as well as any other related areas that develop during the interview;

- -Should the two missions and/or squadrons be consolidated?
- -What are the advantages and disadvantages associated with a consolidation?
- -What should the "new" squadron organizational structure look like?
- -What are the barriers to implementing a change to the current system?

3. If a face-to-face interview is not possible then a perhaps a phone interview can be conducted at another time. If you have any questions, I can be reached at or written information can be sent to:

LCDR R. Roll
SMC 1332, NPGS
Monterey, CA 93943

4. Thank you for your time and consideration.

Respectfully,

Appendix A

THE INTERVIEW

1. Should the two communities be consolidated?

   a) Why or why not?

   b) Advantages to consolidating?

   c) Disadvantages to consolidating?

2. Regardless of your response to question 1, if they were consolidated, what should the "new" squadron organization look like?

   a) options?

   b) Advantages or disadvantages of each?

   c) Special issues;

      - Controllability?

      - Single plane detachments?

      - Command opportunities?

Appendix B

3. What are the barriers to implementing a change to the current system?

4. What are the alternatives to consolidation?

5. Are there any other comments or suggestions concerning consolidation (or any other helo issues) you would like to mention?

Appendix B

LIST OF REFERENCES

1. ap Rees, E., World Military Helicopters, Jane's Publishing Company Limited, 1986.

2. COMASWWINGPAC Naval Message, Subject: HS - HSL Consolidation, 191500ZMAR93.

3. Conner, P. E., Organization Structure and Design, Science Research Associates, Inc., 1984.

4. Dirren, F. M., "Focus on the Future: 20/20 Vision," Rotor Review, Winter 1994.

5. Galdorisi, G., "Strike Force Air Power for the Twenty-First Century," Rotor Review, Spring 1991.

6. Squires, M., "Vision 2005," brief prepared by the Helicopter Type Wing Commanders and presented to AIRLANT, March 1994.

7. Takahashi, N., Design of Adaptive Organizations, Springer-Verlag, 1987.

Interviews

1. Beeks, K., CDR, USN, Commanding Officer, HSL-44, NAS Mayport, Florida, Telephone Interview, February 2, 1994.

2. Cerillo, T., CDR, USN, Commanding Officer, HSL-43, NAS North Island, California, Interview, December 21, 1993.

3. Dosker, H., CDR, USN, Commanding Officer, HS-8, NAS North Island, California, Interview, December 21, 1993.

4. Fetterman, I., CDR, USN, Commanding Officer, HSL-47, NAS North Island, California, Telephone Interview, March 3, 1994.

5. Fuqua, M., CDR, USN, Commanding Officer, HS-10, NAS North Island, California, Interview, December 22, 1993.

6. Ferness, J., CDR, USN, Commanding Officer, HSL-42, NAS Mayport, Florida, Telephone Interview, February 3, 1994.

7. Henry, Z., CDR, USN, Commanding Officer, HSL-49, NAS North Island, California, Interview, December 23, 1993.

8. Hoffman, G., CDR, USN, Commanding Officer, HSL-41, NAS North Island, California, Telephone Interview, March 3, 1994.

9. Kish, P., CDR, USN, Commanding Officer, HS-4, NAS North Island, California, Interview, December 22, 1993.

10. Klink, G., CDR, USN, Commanding Officer, HSL-45, NAS North Island, California, Interview, December 23, 1993.

11. Laser, K., CDR, USN, Commanding Officer, HSL-48, NAS Mayport, Florida, Telephone Interview, February 2, 1994.

12. McDonald, J., CDR, USN, Commanding Officer, HS-6, NAS North Island, California, Interview, December 21, 1993.

13. Robertson, C., CDR, USN, Commanding Officer, HS-2, NAS North Island, California, Interview, December 21, 1993.

14. Ruehe, F., CDR, USN, Commanding Officer, HSL-40, NAS Mayport, Florida, Telephone Interview, February 4, 1994.

15. Scull, W., CDR, USN, Commanding Officer, HSL-46, NAS Mayport, Florida, Telephone Interview, February 2, 1994.

16. Stark, G., CDR, USN, Commanding Officer, HS-11, NAS Jacksonville, Florida, Telephone Interview, February 3, 1993.

17. Steele, G., CDR, USN, Commanding Officer, HS-14, NAS North Island, California, Interview, December 21, 1993.

18. Thompson, K., CDR, USN, Commanding Officer, HS-3, NAS Jacksonville, Florida, Telephone Interview, March 2, 1994.

19. Waickwicz, J., CDR, USN, Commanding Officer, HS-1, NAS Jacksonville, Florida, Telephone Interview, February 3, 1994.

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